

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 09/935,290A
Source: IFW16
Date Processed by STIC: 09-23-2005

ENTERED

CRF Errors Edited by the STIC Systems Branch

Serial Number: 09/935,290A

CRF Edit Date: 09-23-2005
Edited by: YF

___ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

___ Corrected the SEQ ID NO. Sequence numbers edited were:

___ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

___ Deleted: ☒ invalid beginning/end-of-file text ; ___ page numbers

___ Inserted mandatory headings/numeric identifiers, specifically:

___ Moved responses to same line as heading/numeric identifier, specifically:

___ Other:



IFW16

RAW SEQUENCE LISTING

DATE: 09/23/2005

PATENT APPLICATION: US/09/935,290A

TIME: 13:26:49

Input Set : A:\PTO.YF.txt

Output Set: N:\CRF4\09232005\I935290A.raw

4 <110> APPLICANT: Kapeller-Libermann, Rosana
 7 <120> TITLE OF INVENTION: 56919, A NOVEL HUMAN ACYLTRANSFERASE AND
 8 USES THEREOF
 10 <130> FILE REFERENCE: MPI00-343P1RM
 12 <140> CURRENT APPLICATION NUMBER: 09/935,290A
 13 <141> CURRENT FILING DATE: 2001-08-21
 15 <150> PRIOR APPLICATION NUMBER: 60/226,509
 16 <151> PRIOR FILING DATE: 2000-08-21
 18 <160> NUMBER OF SEQ ID NOS: 16
 20 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 22 <210> SEQ ID NO: 1
 23 <211> LENGTH: 3003
 24 <212> TYPE: DNA
 25 <213> ORGANISM: Homo sapiens
 27 <220> FEATURE:
 28 <221> NAME/KEY: CDS
 29 <222> LOCATION: (341)...(2827)
 31 <221> NAME/KEY: misc_feature
 32 <222> LOCATION: 2939, 2973
 33 <223> OTHER INFORMATION: n = A,T,C or G

W--> 35 <400> 1

```

36 ttcggcacca ggctgctgcg gggggactct ttctgagggt actgtggagc acccaaagtc 60
37 tgtcagcctc tggccgtgca aacaggcacc cagaggaacc agaccttgct tattcaccca 120
38 cagcctggga ctgtcttctc cagagtctcc atcagctttg ctaatcgact gattggaaat 180
39 aattcctcaa acaccaccaa gtcaaggata caggcagcag cggctcccct gttgtatgga 240
40 cattctgcac ccgaaactga tagctgagtc ctgaagtttt atgttatgaa acagaagaac 300
41 tttcatcca gcacatgatt tgggaattac actttgtgac atg gat gaa tct gca 355
42                                     Met Asp Glu Ser Ala
43                                     1           5
45 ctg acc ctt ggt aca ata gat gtt tct tat ctg cca cat tca tca gaa 403
46 Leu Thr Leu Gly Thr Ile Asp Val Ser Tyr Leu Pro His Ser Ser Glu
47          10           15           20
49 tac agt gtt ggt cga tgt aag cac aca agt gag gaa tgg ggt gag tgt 451
50 Tyr Ser Val Gly Arg Cys Lys His Thr Ser Glu Glu Trp Gly Glu Cys
51          25           30           35
53 ggc ttt aga ccc acc gtc ttc aga tct gca act tta aaa tgg aaa gaa 499
54 Gly Phe Arg Pro Thr Val Phe Arg Ser Ala Thr Leu Lys Trp Lys Glu
55          40           45           50
57 agc cta atg agt cgg aaa agg cca ttt gtt gga aga tgt tgt tac tcc 547
58 Ser Leu Met Ser Arg Lys Arg Pro Phe Val Gly Arg Cys Cys Tyr Ser
59          55           60           65
61 tgc act ccc cag agc tgg gac aaa ttt ttc aac ccc agt atc ccg tct 595
62 Cys Thr Pro Gln Ser Trp Asp Lys Phe Phe Asn Pro Ser Ile Pro Ser
  
```

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63	70		75		80		85	
65	ttg ggt ttg cgg aat gtt att tat atc aat gaa act cac aca aga cac	643						
66	Leu Gly Leu Arg Asn Val Ile Tyr Ile Asn Glu Thr His Thr Arg His							
67			90		95		100	
69	cgc gga tgg ctt gca aga cgc ctt tct tac gtt ctt ttt att caa gag	691						
70	Arg Gly Trp Leu Ala Arg Arg Leu Ser Tyr Val Leu Phe Ile Gln Glu							
71			105		110		115	
73	cga gat gtg cat aag ggc atg ttt gcc acc aat gtg act gaa aat gtg	739						
74	Arg Asp Val His Lys Gly Met Phe Ala Thr Asn Val Thr Glu Asn Val							
75			120		125		130	
77	ctg aac agc agt aga gta caa gag gca att gca gaa gtg gct gct gaa	787						
78	Leu Asn Ser Ser Arg Val Gln Glu Ala Ile Ala Glu Val Ala Ala Glu							
79			135		140		145	
81	tta aac cct gat ggt tct gcc cag cag caa tca aaa gcc gtt aac aaa	835						
82	Leu Asn Pro Asp Gly Ser Ala Gln Gln Gln Ser Lys Ala Val Asn Lys							
83	150		155		160		165	
85	gtg aaa aag aaa gct aaa agg att ctt caa gaa atg gtt gcc act gtc	883						
86	Val Lys Lys Lys Ala Lys Arg Ile Leu Gln Glu Met Val Ala Thr Val							
87			170		175		180	
89	tca ccg gca atg atc aga ctg act ggg tgg gtg ctg cta aaa ctg ttc	931						
90	Ser Pro Ala Met Ile Arg Leu Thr Gly Trp Val Leu Leu Lys Leu Phe							
91			185		190		195	
93	aac agc ttc ttt tgg aac att caa att cac aaa ggt caa ctt gag atg	979						
94	Asn Ser Phe Phe Trp Asn Ile Gln Ile His Lys Gly Gln Leu Glu Met							
95			200		205		210	
97	gtt aaa gct gca act gag acg aat ttg ccg ctt ctg ttt cta cca gtt	1027						
98	Val Lys Ala Ala Thr Glu Thr Asn Leu Pro Leu Leu Phe Leu Pro Val							
99			215		220		225	
101	cat aga tcc cat att gac tat ctg ctg ctc act ttc att ctc ttc tgc	1075						
102	His Arg Ser His Ile Asp Tyr Leu Leu Leu Thr Phe Ile Leu Phe Cys							
103	230		235		240		245	
105	cat aac atc aaa gca cca tac att gct tca ggc aat aat ctc aac atc	1123						
106	His Asn Ile Lys Ala Pro Tyr Ile Ala Ser Gly Asn Asn Leu Asn Ile							
107			250		255		260	
109	cca atc ttc agt acc ttg atc cat aag ctt ggg ggc ttc ttc ata cga	1171						
110	Pro Ile Phe Ser Thr Leu Ile His Lys Leu Gly Gly Phe Phe Ile Arg							
111			265		270		275	
113	cga agg ctc gat gaa aca cca gat gga cgg aaa gat gtt ctc tat aga	1219						
114	Arg Arg Leu Asp Glu Thr Pro Asp Gly Arg Lys Asp Val Leu Tyr Arg							
115			280		285		290	
117	gct ttg ctc cat ggg cat ata gtt gaa tta ctt cga cag cag caa ttc	1267						
118	Ala Leu Leu His Gly His Ile Val Glu Leu Leu Arg Gln Gln Gln Phe							
119			295		300		305	
121	ttg gag atc ttc ctg gaa ggc aca cgt tct agg agt gga aaa acc tct	1315						
122	Leu Glu Ile Phe Leu Glu Gly Thr Arg Ser Arg Ser Gly Lys Thr Ser							
123	310		315		320		325	
125	tgt gct cgg gca gga ctt ttg tca gtt gtg gta gat act ctg tct acc	1363						
126	Cys Ala Arg Ala Gly Leu Leu Ser Val Val Val Asp Thr Leu Ser Thr							
127			330		335		340	

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```

129 aat gtc atc cca gac atc ttg ata ata cct gtt gga atc tcc tat gat 1411
130 Asn Val Ile Pro Asp Ile Leu Ile Ile Pro Val Gly Ile Ser Tyr Asp
131          345          350          355
133 cgc att atc gaa ggt cac tac aat ggt gaa caa ctg ggc aaa cct aag 1459
134 Arg Ile Ile Glu Gly His Tyr Asn Gly Glu Gln Leu Gly Lys Pro Lys
135          360          365          370
137 aag aat gag agc ctg tgg agt gta gca aga ggt gtt att aga atg tta 1507
138 Lys Asn Glu Ser Leu Trp Ser Val Ala Arg Gly Val Ile Arg Met Leu
139          375          380          385
141 cga aaa aac tat ggt tgt gtc cga gtg gat ttt gca cag cca ttt tcc 1555
142 Arg Lys Asn Tyr Gly Cys Val Arg Val Asp Phe Ala Gln Pro Phe Ser
143 390          395          400          405
145 tta aag gaa tat tta gaa agc caa agt cag aaa ccg gtg tct gct cta 1603
146 Leu Lys Glu Tyr Leu Glu Ser Gln Ser Gln Lys Pro Val Ser Ala Leu
147          410          415          420
149 ctt tcc ctg gag caa gcg ttg tta cca gct ata ctt cct tca aga ccc 1651
150 Leu Ser Leu Glu Gln Ala Leu Leu Pro Ala Ile Leu Pro Ser Arg Pro
151          425          430          435
153 agt gat gct gct gat gaa ggt aga gac acg tcc att aat gag tcc aga 1699
154 Ser Asp Ala Ala Asp Glu Gly Arg Asp Thr Ser Ile Asn Glu Ser Arg
155          440          445          450
157 aat gca aca gat gaa tcc cta cga agg agg ttg att gca aat ctg gct 1747
158 Asn Ala Thr Asp Glu Ser Leu Arg Arg Arg Leu Ile Ala Asn Leu Ala
159          455          460          465
161 gag cat att cta ttc act gct agc aag tcc tgt gcc att atg tcc aca 1795
162 Glu His Ile Leu Phe Thr Ala Ser Lys Ser Cys Ala Ile Met Ser Thr
163 470          475          480          485
165 cac att gtg gct tgc ctg ctc ctc tac aga cac agg cag gga att gat 1843
166 His Ile Val Ala Cys Leu Leu Leu Tyr Arg His Arg Gln Gly Ile Asp
167          490          495          500
169 ctc tcc aca ttg gtc gaa gac ttc ttt gtg atg aaa gag gaa gtc ctg 1891
170 Leu Ser Thr Leu Val Glu Asp Phe Phe Val Met Lys Glu Glu Val Leu
171          505          510          515
173 gct cgt gat ttt gac ctg ggg ttc tca gga aat tca gaa gat gta gta 1939
174 Ala Arg Asp Phe Asp Leu Gly Phe Ser Gly Asn Ser Glu Asp Val Val
175          520          525          530
177 atg cat gcc ata cag ctg ctg gga aat tgt gtc aca atc acc cac act 1987
178 Met His Ala Ile Gln Leu Leu Gly Asn Cys Val Thr Ile Thr His Thr
179          535          540          545
181 agc agg aac gat gag ttt ttt atc acc ccc agc aca act gtc cca tca 2035
182 Ser Arg Asn Asp Glu Phe Phe Ile Thr Pro Ser Thr Thr Val Pro Ser
183 550          555          560          565
185 gtc ttc gaa ctc aac ttc tac agc aat ggg gta ctt cat gtc ttt atc 2083
186 Val Phe Glu Leu Asn Phe Tyr Ser Asn Gly Val Leu His Val Phe Ile
187          570          575          580
189 atg gag gcc atc ata gct tgc agc ctt tat gca gtt ctg aac aag agg 2131
190 Met Glu Ala Ile Ile Ala Cys Ser Leu Tyr Ala Val Leu Asn Lys Arg
191          585          590          595
193 gga ctg ggg ggt ccc act agc acc cca cct aac ctg atc agc cag gag 2179

```

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Input Set : A:\PTO.YF.txt

Output Set: N:\CRF4\09232005\I935290A.raw

```

194 Gly Leu Gly Gly Pro Thr Ser Thr Pro Pro Asn Leu Ile Ser Gln Glu
195      600      605      610
197 cag ctg gtg cgg aag gcg gcc agc ctg tgc tac ctt ctc tcc aat gaa 2227
198 Gln Leu Val Arg Lys Ala Ala Ser Leu Cys Tyr Leu Leu Ser Asn Glu
199      615      620      625
201 ggc acc atc tca ctg cct tgc cag aca ttt tac caa gtc tgc cat gaa 2275
202 Gly Thr Ile Ser Leu Pro Cys Gln Thr Phe Tyr Gln Val Cys His Glu
203 630      635      640      645
205 aca gta gga aag ttt atc cag tat ggc att ctt aca gtg gca gag cac 2323
206 Thr Val Gly Lys Phe Ile Gln Tyr Gly Ile Leu Thr Val Ala Glu His
207      650      655      660
209 gat gac cag gaa gat atc agt cct agt ctt gct gag cag cag tgg gac 2371
210 Asp Asp Gln Glu Asp Ile Ser Pro Ser Leu Ala Glu Gln Gln Trp Asp
211      665      670      675
213 aag aag ctt cca gaa cct ttg tct tgg aga agt gat gaa gaa gat gaa 2419
214 Lys Lys Leu Pro Glu Pro Leu Ser Trp Arg Ser Asp Glu Glu Asp Glu
215      680      685      690
217 gac agt gac ttt ggg gag gaa cag cga gat tgc tac ctg aag gtg agc 2467
218 Asp Ser Asp Phe Gly Glu Glu Gln Arg Asp Cys Tyr Leu Lys Val Ser
219      695      700      705
221 caa tcc aag gag cac cag cag ttt atc acc ttc tta cag aga ctc ctt 2515
222 Gln Ser Lys Glu His Gln Gln Phe Ile Thr Phe Leu Gln Arg Leu Leu
223 710      715      720      725
225 ggg cct ttg ctg gag gcc tac agc tct gct gcc atc ttt gtt cac aac 2563
226 Gly Pro Leu Leu Glu Ala Tyr Ser Ser Ala Ala Ile Phe Val His Asn
227      730      735      740
229 ttc agt ggt cct gtt cca gaa cct gag tat ctg caa aag ttg cac aaa 2611
230 Phe Ser Gly Pro Val Pro Glu Pro Glu Tyr Leu Gln Lys Leu His Lys
231      745      750      755
233 tac cta ata acc aga aca gaa aga aat gtt gca gta tat gct gag agt 2659
234 Tyr Leu Ile Thr Arg Thr Glu Arg Asn Val Ala Val Tyr Ala Glu Ser
235      760      765      770
237 gcc aca tat tgt ctt gtg aag aat gct gtg aaa atg ttt aag gat att 2707
238 Ala Thr Tyr Cys Leu Val Lys Asn Ala Val Lys Met Phe Lys Asp Ile
239      775      780      785
241 ggg gtt ttc aag gag acc aaa caa aag aga gtg tct gtt tta gaa ctg 2755
242 Gly Val Phe Lys Glu Thr Lys Gln Lys Arg Val Ser Val Leu Glu Leu
243 790      795      800      805
245 agc agc act ttt cta cct caa tgc aac cga caa aaa ctt cta gaa tat 2803
246 Ser Ser Thr Phe Leu Pro Gln Cys Asn Arg Gln Lys Leu Leu Glu Tyr
247      810      815      820
249 att ctg agt ttt gtg gtg ctg tag gtaacgtgtg gcaactgctgg caaatgaagg 2857
250 Ile Leu Ser Phe Val Val Leu *
251      825
253 tcatgagatg agttccttgt aggtaccagc ttctggctca agagtttgaa ggtgccttcg 2917
W--> 254 caggggtcag gcctgccctg tncggaagtg atctcctgga agacaagtgc cttctnccctc 2977
255 catggatctg agatcttccc agctttt 3003
257 <210> SEQ ID NO: 2
258 <211> LENGTH: 828

```

RAW SEQUENCE LISTING

DATE: 09/23/2005

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TIME: 13:26:49

Input Set : A:\PTO.YF.txt

Output Set: N:\CRF4\09232005\I935290A.raw

```

259 <212> TYPE: PRT
260 <213> ORGANISM: Homo sapiens
262 <400> SEQUENCE: 2
263 Met Asp Glu Ser Ala Leu Thr Leu Gly Thr Ile Asp Val Ser Tyr Leu
264 1 5 10 15
265 Pro His Ser Ser Glu Tyr Ser Val Gly Arg Cys Lys His Thr Ser Glu
266 20 25 30
267 Glu Trp Gly Glu Cys Gly Phe Arg Pro Thr Val Phe Arg Ser Ala Thr
268 35 40 45
269 Leu Lys Trp Lys Glu Ser Leu Met Ser Arg Lys Arg Pro Phe Val Gly
270 50 55 60
271 Arg Cys Cys Tyr Ser Cys Thr Pro Gln Ser Trp Asp Lys Phe Phe Asn
272 65 70 75 80
273 Pro Ser Ile Pro Ser Leu Gly Leu Arg Asn Val Ile Tyr Ile Asn Glu
274 85 90 95
275 Thr His Thr Arg His Arg Gly Trp Leu Ala Arg Arg Leu Ser Tyr Val
276 100 105 110
277 Leu Phe Ile Gln Glu Arg Asp Val His Lys Gly Met Phe Ala Thr Asn
278 115 120 125
279 Val Thr Glu Asn Val Leu Asn Ser Ser Arg Val Gln Glu Ala Ile Ala
280 130 135 140
281 Glu Val Ala Ala Glu Leu Asn Pro Asp Gly Ser Ala Gln Gln Gln Ser
282 145 150 155 160
283 Lys Ala Val Asn Lys Val Lys Lys Lys Ala Lys Arg Ile Leu Gln Glu
284 165 170 175
285 Met Val Ala Thr Val Ser Pro Ala Met Ile Arg Leu Thr Gly Trp Val
286 180 185 190
287 Leu Leu Lys Leu Phe Asn Ser Phe Trp Asn Ile Gln Ile His Lys
288 195 200 205
289 Gly Gln Leu Glu Met Val Lys Ala Ala Thr Glu Thr Asn Leu Pro Leu
290 210 215 220
291 Leu Phe Leu Pro Val His Arg Ser His Ile Asp Tyr Leu Leu Leu Thr
292 225 230 235 240
293 Phe Ile Leu Phe Cys His Asn Ile Lys Ala Pro Tyr Ile Ala Ser Gly
294 245 250 255
295 Asn Asn Leu Asn Ile Pro Ile Phe Ser Thr Leu Ile His Lys Leu Gly
296 260 265 270
297 Gly Phe Phe Ile Arg Arg Arg Leu Asp Glu Thr Pro Asp Gly Arg Lys
298 275 280 285
299 Asp Val Leu Tyr Arg Ala Leu Leu His Gly His Ile Val Glu Leu Leu
300 290 295 300
301 Arg Gln Gln Gln Phe Leu Glu Ile Phe Leu Glu Gly Thr Arg Ser Arg
302 305 310 315 320
303 Ser Gly Lys Thr Ser Cys Ala Arg Ala Gly Leu Leu Ser Val Val Val
304 325 330 335
305 Asp Thr Leu Ser Thr Asn Val Ile Pro Asp Ile Leu Ile Ile Pro Val
306 340 345 350
307 Gly Ile Ser Tyr Asp Arg Ile Ile Glu Gly His Tyr Asn Gly Glu Gln
308 355 360 365

```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 09/23/2005
PATENT APPLICATION: US/09/935,290A TIME: 13:26:50

Input Set : A:\PTO.YF.txt
Output Set: N:\CRF4\09232005\I935290A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 2939,2973

VERIFICATION SUMMARY

DATE: 09/23/2005

PATENT APPLICATION: US/09/935,290A

TIME: 13:26:50

Input Set : A:\PTO.YF.txt

Output Set: N:\CRF4\09232005\I935290A.raw

L:35 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1

L:254 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:2917

Raw Sequence Listing before editing,
for reference only



IFW16

RAW SEQUENCE LISTING

DATE: 09/23/2005

PATENT APPLICATION: US/09/935,290A

TIME: 13:21:20

Input Set : A:\SEQUENCE LISTING2.txt

Output Set: N:\CRF4\09232005\I935290A.raw

4 <110> APPLICANT: Kapeller-Libermann, Rosana
 7 <120> TITLE OF INVENTION: 56919, A NOVEL HUMAN ACYLTRANSFERASE AND
 8 USES THEREOF
 10 <130> FILE REFERENCE: MPI00-343P1RM
 12 <140> CURRENT APPLICATION NUMBER: 09/935,290A
 13 <141> CURRENT FILING DATE: 2001-08-21
 15 <150> PRIOR APPLICATION NUMBER: 60/226,509
 16 <151> PRIOR FILING DATE: 2000-08-21
 18 <160> NUMBER OF SEQ ID NOS: 16
 20 <170> SOFTWARE: FastSEQ for Windows Version 4.0

Does Not Comply
 Corrected Diskette Needed

(Pg-3)

ERRORED SEQUENCES

824 <210> SEQ ID NO: 16
 825 <211> LENGTH: 828
 826 <212> TYPE: PRT
 827 <213> ORGANISM: Rattus norvegicus
 829 <400> SEQUENCE: 16
 830 Met Glu Glu Ser Ser Val Thr Ile Gly Thr Ile Asp Val Ser Tyr Leu
 831 1 5 10 15
 832 Pro Asn Ser Ser Glu Tyr Ser Leu Gly Arg Cys Lys His Thr Asn Glu
 833 20 25 30
 834 Asp Trp Val Asp Cys Gly Phe Lys Pro Thr Phe Phe Arg Ser Ala Thr
 835 35 40 45
 836 Leu Lys Trp Lys Glu Ser Leu Met Ser Arg Lys Arg Pro Phe Val Gly
 837 50 55 60
 838 Arg Cys Cys Tyr Ser Cys Thr Pro Gln Ser Trp Glu Arg Phe Phe Asn
 839 65 70 75 80
 840 Pro Ser Ile Pro Ser Leu Gly Leu Arg Asn Val Ile Tyr Ile Asn Glu
 841 85 90 95
 842 Thr His Thr Arg His Arg Gly Trp Leu Ala Arg Arg Leu Ser Tyr Ile
 843 100 105 110
 844 Leu Phe Val Gln Glu Arg Asp Val His Lys Gly Met Phe Ala Thr Ser
 845 115 120 125
 846 Ile Thr Asp Asn Val Leu Asn Ser Ser Arg Val Gln Glu Ala Ile Ala
 847 130 135 140
 848 Glu Val Ala Ala Glu Leu Asn Pro Asp Gly Ser Ala Gln Gln Gln Ser
 849 145 150 155 160
 850 Lys Ala Ile Gln Lys Val Lys Arg Lys Ala Arg Lys Ile Leu Gln Glu
 851 165 170 175
 852 Met Val Ala Thr Val Ser Pro Gly Met Ile Arg Leu Thr Gly Trp Val
 853 180 185 190

RAW SEQUENCE LISTING

DATE: 09/23/2005

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TIME: 13:21:20

Input Set : A:\SEQUENCE LISTING2.txt

Output Set: N:\CRF4\09232005\I935290A.raw

```

854 Leu Leu Lys Leu Phe Asn Ser Phe Phe Trp Asn Ile Gln Ile His Lys
855      195      200      205
856 Gly Gln Leu Glu Met Val Lys Ala Ala Thr Glu Thr Asn Leu Pro Leu
857      210      215      220
858 Leu Phe Leu Pro Val His Arg Ser His Ile Asp Tyr Leu Leu Leu Thr
859 225      230      235      240
860 Phe Ile Leu Phe Cys His Asn Ile Lys Ala Pro Tyr Ile Ala Ser Gly
861      245      250      255
862 Asn Asn Leu Asn Ile Pro Ile Phe Ser Thr Leu Ile His Lys Leu Gly
863      260      265      270
864 Gly Phe Phe Ile Arg Arg Arg Leu Asp Glu Thr Pro Asp Gly Arg Lys
865      275      280      285
866 Asp Ile Leu Tyr Arg Ala Leu Leu His Gly His Ile Val Glu Leu Leu
867      290      295      300
868 Arg Gln Gln Gln Phe Leu Glu Ile Phe Leu Glu Gly Thr Arg Ser Arg
869 305      310      315      320
870 Ser Gly Lys Thr Ser Cys Ala Arg Ala Gly Leu Leu Ser Val Val Val
871      325      330      335
872 Asp Thr Leu Ser Ser Asn Thr Ile Pro Asp Ile Leu Val Ile Pro Val
873      340      345      350
874 Gly Ile Ser Tyr Asp Arg Ile Ile Glu Gly His Tyr Asn Gly Glu Gln
875      355      360      365
876 Leu Gly Lys Pro Lys Lys Asn Glu Ser Leu Trp Ser Val Ala Arg Gly
877      370      375      380
878 Val Ile Arg Met Leu Arg Lys Asn Tyr Gly Tyr Val Arg Val Asp Phe
879 385      390      395      400
880 Ala Gln Pro Phe Ser Leu Lys Glu Tyr Leu Glu Gly Gln Ser Gln Lys
881      405      410      415
882 Pro Val Ser Ala Pro Leu Ser Leu Glu Gln Ala Leu Leu Pro Ala Ile
883      420      425      430
884 Leu Pro Ser Arg Pro Asp Ala Ala Ala Glu His Glu Asp Met Ser
885      435      440      445
886 Ile Asn Glu Ser Arg Asn Ala Ala Asp Glu Ala Phe Arg Arg Arg Leu
887      450      455      460
888 Ile Ala Asn Leu Ala Glu His Ile Leu Phe Thr Ala Ser Lys Ser Cys
889 465      470      475      480
890 Ala Ile Met Ser Thr His Ile Val Ala Cys Leu Leu Leu Tyr Arg His
891      485      490      495
892 Arg Gln Gly Ile His Leu Ser Thr Leu Val Glu Asp Phe Phe Val Met
893      500      505      510
894 Lys Glu Glu Val Leu Ala Arg Asp Phe Asp Leu Gly Phe Ser Gly Asn
895      515      520      525
896 Ser Glu Asp Val Val Met His Ala Ile Gln Leu Leu Gly Asn Cys Val
897      530      535      540
898 Thr Ile Thr His Thr Ser Arg Lys Asp Glu Phe Phe Ile Thr Pro Ser
899 545      550      555      560
900 Thr Thr Val Pro Ser Val Phe Glu Leu Asn Phe Tyr Ser Asn Gly Val
901      565      570      575
902 Leu His Val Phe Ile Met Glu Ala Ile Ile Ala Cys Ser Leu Tyr Ala

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RAW SEQUENCE LISTING

DATE: 09/23/2005

PATENT APPLICATION: US/09/935,290A

TIME: 13:21:20

Input Set : A:\SEQUENCE LISTING2.txt

Output Set: N:\CRF4\09232005\I935290A.raw

```

903          580          585          590
904 Val Gln Asn Lys Arg Gly Ser Gly Gly Pro Thr Ser Thr Pro Pro Asn
905          595          600          605
906 Leu Ile Ser Gln Glu Gln Leu Val Arg Lys Ala Ala Ser Leu Cys Tyr
907          610          615          620
908 Leu Leu Ser Asn Glu Gly Thr Ile Ser Leu Pro Cys Gln Thr Phe Tyr
909 625          630          635          640
910 Gln Val Cys Gln Glu Thr Val Gly Lys Phe Ile Gln Tyr Gly Ile Leu
911          645          650          655
912 Thr Val Ala Glu Gln Asp Asp Gln Glu Asp Val Ser Pro Gly Leu Ala
913          660          665          670
914 Glu Gln Gln Trp Asn Lys Lys Leu Pro Glu Pro Leu Asn Trp Arg Ser
915          675          680          685
916 Asp Glu Glu Asp Glu Asp Ser Asp Phe Gly Glu Glu Gln Arg Asp Cys
917          690          695          700
918 Tyr Leu Lys Val Ser Gln Ala Lys Glu His Gln Gln Phe Ile Thr Phe
919 705          710          715          720
920 Leu Gln Arg Leu Leu Gly Pro Leu Leu Glu Ala Tyr Ser Ser Ala Ala
921          725          730          735
922 Ile Phe Val His Thr Phe Arg Gly Pro Val Pro Glu Pro Glu Tyr Leu
923          740          745          750
924 Gln Arg Leu His Lys Tyr Leu Ile Thr Arg Thr Glu Arg Asn Val Ala
925          755          760          765
926 Val Tyr Ala Glu Ser Ala Thr Tyr Cys Leu Val Lys Asn Ala Val Lys
927          770          775          780
928 Met Phe Lys Asp Ile Gly Val Phe Lys Glu Thr Lys Gln Lys Arg Ala
929 785          790          795          800
930 Ser Val Leu Glu Leu Ser Ser Thr Phe Leu Pro Gln Cys Asn Arg Gln
931          805          810          815
932 Lys Leu Leu Glu Tyr Ile Leu Ser Phe Val Val Leu
933          820          825

```

E--> 938 (1)

deleted

VERIFICATION SUMMARY

DATE: 09/23/2005

PATENT APPLICATION: US/09/935,290A

TIME: 13:21:21

Input Set : A:\SEQUENCE LISTING2.txt

Output Set: N:\CRF4\09232005\I935290A.raw

L:35 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1

L:254 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:2917

L:938 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:16